

Road Services Division

2012 Collision Data Report



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TABLE OF CONTENTS

1.0	Executive Summary.....	5
1.1	Six Year Trends	5
1.2	Collision Rates and Road Miles.....	7
1.3	Collisions by Type and Severity.....	9
2.0	Collision Trends.....	10
2.1	Fatality and Fatal Collision Rates	10
2.2	US, State, and Unincorporated King County Collision, Fatal Collision, and Fatality Rate.....	12
2.3	Urban versus Rural Roads - Fatal Collision and Fatality Rates	14
2.4	Collisions by Road Classification	16
3.0	Collision Types	17
3.1	Collision Severity	17
3.2	Fixed Object Collisions	21
3.3	Pedestrian Collisions.....	24
3.4	Bicycle Collisions.....	27
3.5	Motorcycle Involved Collisions	28
4.0	Other Collision Information	29
4.1	Estimated Economic Costs.....	29
4.2	Month, Day of Week, and Time of Day	30
4.3	Weather Conditions	34
4.4	Demographics.....	36
4.5	Contributing Circumstances.....	40
4.6	Impairment.....	41
4.7	Speed	44
4.8	Lighting Conditions	45
Appendix A - Data Sources	46	
Appendix B - Formulas in Report.....	47	

LIST OF TABLES

<i>Table 1.1.1 Number of Collisions By Severity</i>	6
<i>Table 1.2.1 Collision Rate per Million Vehicle Miles Traveled</i>	7
<i>Table 1.2.2 Collision Rate per 100,000 Population.....</i>	7
<i>Table 1.2.3 Road Miles by Federal Functional Classification (FFC).....</i>	8
<i>Table 1.3.1 2012 Collisions by Severity and Transportation Mode</i>	9
<i>Table 2.1.1 Fatality Rate per 100,000 Population.....</i>	10
<i>Table 2.1.2 Fatal Collision Rate Rate per 100,000 Population</i>	10
<i>Table 2.1.3 Fatality Rate per 100 Million Vehicle Miles Traveled</i>	11
<i>Table 2.1.4 Fatal Collision Rate per 100 Million Vehicle Miles Traveled</i>	11
<i>Table 2.2.1 US, State, and Unincorporated King County Collision Rate per 100,000 Population.....</i>	12
<i>Table 2.2.2 US, State, and Unincorporated King County Fatal Collision and Fatality Rate per 100,000 Population</i>	12
<i>Table 2.2.3 US, State, and Unincorporated King County Collision Rate per Million Vehicle Miles Traveled (VMT)</i>	13
<i>Table 2.2.4 US, State, and Unincorporated King County Fatal Collision and Fatality Rate per 100 Million Vehicle Miles Traveled (VMT)</i>	13
<i>Table 2.3.1 Urban versus Rural Roads in Unincorporated King County Fatal Collision and Fatality Rate per 100,000 Population.....</i>	14
<i>Table 2.3.2 Urban versus Rural Roads in Unincorporated King County Fatal Collision Rate per 100 Million Vehicle Miles Traveled (VMT)</i>	14
<i>Table 2.3.3 Urban versus Rural Roads in Unincorporated King County Fatality Rate per 100 Million Vehicle Miles Traveled (VMT)</i>	15
<i>Table 2.3.4 Urban versus Rural Collision Rate per Million Vehicle Miles Traveled (VMT).....</i>	15
<i>Table 2.4.1 Collisions by King County Road Classification.....</i>	16
<i>Table 2.4.2 Collisions by King County Road Classification and Severity.....</i>	16
<i>Table 3.1.1 Collisions by Collision Type</i>	17
<i>Table 3.1.2 Fatal Collisions by Collision Type</i>	18
<i>Table 3.1.3 2012 Collisions by Collision Type and Severity.....</i>	19
<i>Table 3.1.4 2012 Collisions by First Object Struck and Severity</i>	20
<i>Table 3.2.1 Collision Rate per Million Vehicle Miles Traveled (VMT) for Collisions Involving Fixed Objects</i>	21
<i>Table 3.3.1 Pedestrian Collisions by Severity</i>	24
<i>Table 3.3.2 2012 Pedestrian Collisions by Facility Used and Severity</i>	24
<i>Table 3.3.3 Pedestrian Collisions by Contributing Circumstance</i>	25
<i>Table 3.3.4 Age of Pedestrians Involved in Collisions.....</i>	26
<i>Table 3.3.5 Gender of Pedestrians Involved in Collisions</i>	26
<i>Table 3.4.1 Bicycle Collisions by Severity.....</i>	27
<i>Table 3.5.1 Motorcycle Involved Collisions by Severity</i>	28
<i>Table 4.1.1 Estimated Economic Costs.....</i>	29
<i>Table 4.3.1 Fatal Collisions By Weather Condition</i>	34
<i>Table 4.3.2 Injury Collisions By Weather Condition</i>	34
<i>Table 4.3.3 Property Damage Collisions By Weather Condition</i>	35
<i>Table 4.4.1 Number of Washington State Licensed Drivers by Age and Gender for 2012</i>	38
<i>Table 4.4.2 Leading Contributing Circumstance For Drivers between the Ages of 16-25 for 2012.....</i>	39
<i>Table 4.5.1 2012 Collisions By Contributing Circumstance</i>	40
<i>Table 4.6.1 Collisions Involving Drivers Under the Influence (DUI)</i>	41
<i>Table 4.7.1 Speeding as a Contributing Circumstance in Fatal, Injury, and Property Damage Collisions.....</i>	44
<i>Table 4.8.1 2012 Collisions By Lighting Condition.....</i>	45

LIST OF FIGURES

<i>Figure 3.2.1 Fatal Collisions Involving Fixed Objects as a Percentage of All Fatal Collisions</i>	22
<i>Figure 3.2.2 Collisions Involving Fixed Objects as a Percentage of All Collisions</i>	23
<i>Figure 4.2.1 2012 Collisions by Month</i>	30
<i>Figure 4.2.2 2012 Collisions by Day of Week.....</i>	31
<i>Figure 4.2.3 2012 Weekday Collisions by Time of Day.....</i>	32
<i>Figure 4.2.4 2012 Weekend Collisions by Time of Day.....</i>	33
<i>Figure 4.4.1 2012 Collisions by Age of Driver.....</i>	36
<i>Figure 4.4.2 Distribution of Washington State Licensed Drivers by Age and Gender for 2012</i>	37
<i>Figure 4.6.1 2012 Weekend Collisions for Drivers Under the Influence by Time of Day.....</i>	42
<i>Figure 4.6.2 2012 Weekday Collisions for Drivers Under the Influence by Time of Day.....</i>	43

Introduction

The King County Department of Transportation (KCDOT) is pleased to present the 2012 Collision Data Report. This report is prepared by the Road Services Division's Traffic Safety and Asset Inventory Unit of the Engineering Services Section.

This report was prepared to provide collision and safety information to elected officials, King County staff and the public.

The collision information provided in this report comes from the Washington State Department of Transportation (WSDOT) Collision Location Access Software (CLAS) database as of November 2013. This report covers only those collisions that occur on a county-maintained roadway within unincorporated King County and meet the reporting threshold of \$700 in property damage or result in an injury or fatality.

Other information used in this report is courtesy of the State of Washington's Office of Financial Management, the County Road Administration Board (CRAB), the Washington State Department of Transportation, and the Road Services Division's Engineering Services Section.

1.0 EXECUTIVE SUMMARY

A total of 1,577 collisions were reported on King County maintained roadways during 2012. This included 12 fatal, 545 injury and 1,020 property damage collisions. The total societal and economical costs of these collisions are estimated at \$69 million dollars.

1.1 Six Year Trends

The physical size of unincorporated King County continues to shrink due to annexations. During 2012, eight annexations were finalized. The largest of these - the Bellevue annexation of the Eastgate area - covered 700 acres and included a population of 4,967. In addition, Bellevue also annexed Horizon View (70 acres), Hilltop Community (63 acres), and Tamara Hills (22 acres). Other 2012 annexations included the Mill Planning Area (595 acres) into the city of Snoqualmie; 268th Avenue SE (101 acres) into the city of Enumclaw; and the Fairlane Woods (39 acres) and Windstone V areas (4.39 Acres) moving into the city of Renton.

Population, maintained road miles, and annual million miles traveled have also declined between 2007 and 2012. King County's unincorporated population fell from 368,300 to 255,700 (31 percent), while the number of maintained roadway miles dropped by 19 percent from 1,855 to 1,504. Accordingly, the number of collisions dropped 35 percent from 2,441 to 1,577.

While the total number of collisions has slightly increased over the 2011 total (1,501 compared to 1,577), the proportion of severity has stayed relatively the same. In 2007, fatal collisions were less than 1 percent of the total, injury collisions made up 35 percent and property damage only collisions amounted to 64 percent of the total. In 2012, fatal collisions were less than 1 percent, injury collisions were 35 percent of the total and property damage only collisions made up the remaining 64 percent.

2012 Collision Trends

Over two-thirds of all collisions were either run off the road (33%), rear-end (19%) or entering an intersection at an angle (16%). Pedestrian and bicycle collisions made up less than 3 percent of all collisions. Nearly two-thirds of all run off the road collisions involved a roadway ditch, utility pole, tree or fence.

There were a total of 12 fatal collisions during 2012, with run off the road and entering at an angle collisions accounting for two-thirds of all fatalities (8). Head-on collisions (2), and pedestrian and bicycle fatalities (2) accounted for the remaining one-third of all fatalities.

There were a total of 21 bicycle involved collisions and 30 pedestrian related collisions. Ninety percent of all bike collisions and 97% of all pedestrian collisions resulted in injury or death. Forty-seven percent of all pedestrian collisions involved a pedestrian under the age of 20, whereas 67% of all bike collisions involved a bicyclist over the age of 20.

Table 1.1.1
Number of Collisions
By Severity

Year	PDO*	Percentage	Injury	Percentage	Fatal	Percentage	Total
2007	1,562	64.0%	863	35.4%	16	0.7%	2,441
2008	1,398	64.8%	744	34.5%	16	0.7%	2,158
2009	1,341	64.8%	722	34.9%	7	0.3%	2,070
2010	1,133	65.1%	600	34.5%	8	0.5%	1,741
2011	953	63.5%	540	36.0%	8	0.5%	1,501
2012	1,020	64.7%	545	34.6%	12	0.8%	1,577

*Property Damage Only

1.2 Collision Rates and Road Miles

Table 1.2.1
Collision Rate per Million Vehicle Miles Traveled

Year	Total Collision Reports	Average Daily Traffic Volumes (ADT)	Maintained Road Miles	Annual Million Miles Driven	Collision Rate
2007	2,441	4,373	1,855	2,961	0.82
2008	2,158	4,034	1,758	2,588	0.83
2009	2,070	3,667	1,743	2,333	0.89
2010	1,741	2,377	1,632	1,416	1.23
2011	1,501	1,798	1,531	1,005	1.49
2012	1,577	2,022	1,504	1,110	1.42

Table 1.2.2
Collision Rate per 100,000 Population

All Collision Types			Pedestrian		Bicycle		
Year	Population	# of Collisions	Collisions per 100,000 Population	# of Collisions	Collisions per 100,000 Population	# of Collisions	Collisions per 100,000 Population
2007	368,300	2,441	662.77	38	10.32	23	6.24
2008	341,150	2,158	632.57	35	10.26	25	7.33
2009	343,180	2,070	603.18	29	8.45	16	4.66
2010	284,100	1,741	612.81	28	9.86	24	8.45
2011	253,565	1,501	591.96	27	10.65	29	11.44
2012	255,700	1,577	616.74	30	11.73	21	8.21

Table 1.2.3
Road Miles By
Federal Functional Classification (FFC)

Federal Functional Class (FFC) Description	FFC	Road Miles	Annual Average Daily Traffic Volume (AADT)	Annual Million Vehicle Miles Traveled (VMT)
Rural Minor Arterial	6	36	5,239	69
Rural Major Collector	7	101	2,672	99
Rural Minor Collector	8	128	2,071	97
Rural Local Access	9	399	721	105
Urban Principal Arterial	14	38	16,059	223
Urban Minor Arterial	16	77	8,017	225
Urban Collector	17	78	3,872	110
Urban Local Access	19	647	773	183
Total		1,504		1,110
Overall Weighted Average			2,022	

1.3 Collisions by Type and Severity

Table 1.3.1
2012 Collisions by Severity
And Transportation Mode

Transportation Mode	PDO	% of PDO	Injury	% of Injury	Fatal	% of Fatal	Total	% of Total
Pedestrian	1	0.10	28	5.14	1	8.33	30	2%
Bicycle	2	0.20	18	3.30	1	8.33	21	2%
Motorcycle	7	0.69	37	6.79	6	50.00	50	2%
Motor Vehicle	1010	99.02	462	84.77	4	33.33	1476	94%
Total	1020	100.00	545	100.00	12	100.00	1577	100%

2.0 COLLISION TRENDS

2.1 Fatality and Fatal Collision Rates

Table 2.1.1
Fatality Rate per 100,000 Population

Year	Population	All Collision Types		Pedestrian		Bicycle	
		# of Fatalities	Fatalities per 100,000 population	# of Fatalities	Fatalities per 100,000 population	# of Fatalities	Fatalities per 100,000 population
2007	368,300	16	4.34	2	0.54	1	0.27
2008	341,150	17	4.98	1	0.29	1	0.29
2009	343,180	7	2.04	0	0.00	0	0.00
2010	284,100	8	2.82	1	0.35	1	0.35
2011	253,565	8	3.16	1	0.39	0	0.00
2012	255,700	14	5.48	1	0.39	1	0.39

Table 2.1.2
Fatal Collision Rate per 100,000 Population

Year	Population	All Collision Types		Pedestrian		Bicycle	
		# of Fatal Collisions	Fatal Collisions per 100,000 Population	# of Fatal Collisions	Fatal Collisions per 100,000 Population	# of Fatal Collisions	Fatal Collisions per 100,000 Population
2007	368,300	16	4.34	2	0.54	1	0.27
2008	341,150	16	4.69	1	0.29	1	0.29
2009	343,180	7	2.04	0	0.00	0	0.00
2010	284,100	8	2.82	1	0.35	1	0.35
2011	253,565	8	3.16	1	0.39	0	0.00
2012	255,700	12	4.69	1	0.39	1	0.39

Table 2.1.3
Fatality Rate per
100 Million Vehicle Miles Traveled

Year	Number of Fatalities	Maintained Road Miles	Annual 100 Million Miles Traveled	Fatality Rate
2007	16	1,855	29.61	0.54
2008	17	1,758	25.88	0.66
2009	7	1,743	23.33	0.30
2010	8	1,632	14.16	0.56
2011	8	1,531	10.05	0.80
2012	14	1,504	11.10	1.26

Table 2.1.4
Fatal Collision Rate per
100 Million Vehicle Miles Traveled

Year	Number of Fatal Collisions	Maintained Road Miles	Annual 100 Million Miles Traveled	Fatal Collision Rate
2007	16	1,855	29.61	0.54
2008	16	1,758	25.88	0.62
2009	7	1,743	23.33	0.30
2010	8	1,632	14.16	0.56
2011	8	1,531	10.05	0.80
2012	12	1,504	11.10	1.08

2.2 US, State, and Unincorporated King County Collision, Fatal Collision, and Fatality Rate

Table 2.2.1
US, State, and Unincorporated King County Collision Rate per 100,000 Population

Year	Unincorporated King County			Washington State			United States		
	Population	Collisions	Collisions per 100,000 Population	Population	Collisions	Collisions per 100,000 Population	Population	Collisions	Collisions per 100,000 Population
2007	368,300	2,441	663	6,450,000	128,827	1,997	301,290,000	6,024,000	1,999
2008	341,150	2,158	633	6,549,000	119,410	1,823	304,060,000	5,811,000	1,911
2009	343,180	2,070	603	6,668,200	102,859	1,543	305,529,000	5,505,000	1,802
2010	284,100	1,741	613	6,724,500	101,576	1,511	308,746,000	5,419,000	1,755
2011	253,565	1,501	592	6,801,100	98,820	1,453	311,592,000	5,338,000	1,713
2012	255,700	1,577	617	6,895,300	99,560	1,444	313,874,000	5,615,000	1,789

Table 2.2.2
US, State, and Unincorporated King County Fatal Collision and Fatality Rate per 100,000 Population

Year	Unincorporated King County			Washington State			United States		
	Population	Fatal Collisions per 100,000 Population	Fatalities per 100,000 Population	Population	Fatal Collisions per 100,000 Population	Fatalities per 100,000 Population	Population	Fatal Collisions per 100,000 population	Fatalities per 100,000 population
2007	368,300	4.34	4.34	6,450,000	8.23	8.85	301,290,000	12.42	14.31
2008	341,150	4.69	4.98	6,549,000	7.34	7.96	304,060,000	11.19	13.69
2009	343,180	2.04	2.04	6,668,200	7.34	7.96	305,529,000	10.08	11.09
2010	284,100	2.82	2.82	6,724,500	6.28	6.84	308,746,000	10.8	10.65
2011	253,565	3.16	3.16	6,801,100	6.19	6.68	311,592,000	9.55	10.39
2012	255,700	4.69	5.48	6,895,300	5.84	6.35	313,874,000	9.81	10.69

Source: Washington State Department of Transportation and the National Highway Traffic Safety Administration

Table 2.2.3
US, State, and Unincorporated King County
Collision Rate per Million Vehicle Miles Traveled (VMT)

Year	Unincorporated King County			Washington State			United States		
	Million VMT	Collisions	Collisions per Million VMT	Million VMT	Collisions	Collisions per Million VMT	Million VMT	Collisions	Collisions per Million VMT
2007	2,961	2,441	0.82	56,900	128,827	2.26	3,030,000	6,024,000	1.99
2008	2,588	2,158	0.83	55,213	119,410	2.16	2,926,000	5,811,000	1.99
2009	2,333	2,070	0.89	56,552	102,859	1.82	2,975,000	5,505,000	1.85
2010	1,416	1,741	1.23	57,190	101,576	1.78	2,985,000	5,419,000	1.82
2011	1,005	1,501	1.49	56,750	98,820	1.74	2,946,000	5,338,000	1.81
2012	1,110	1,577	1.42	56,600	99,560	1.76	2,954,000	5,615,000	1.90

Table 2.2.4
US, State, and Unincorporated King County Fatal Collision
and Fatality Rate per 100 Million Vehicle Miles Traveled (VMT)

Year	Unincorporated King County			Washington State			United States		
	100 Million VMT	Fatal Collision Rate per 100 Million VMT	Fatality Rate per 100 Million VMT	100 Million VMT	Fatal Collision Rate per 100 Million VMT	Fatality Rate per 100 Million VMT	100 Million VMT	Fatal Collision Rate per 100 Million VMT	Fatality Rate per 100 Million VMT
2007	29.61	0.54	0.54	569	0.93	1.00	30,300	1.24	1.36
2008	25.88	0.62	0.66	552	0.87	0.94	29,260	1.16	1.27
2009	23.33	0.30	0.30	566	0.8	0.87	29,750	1.04	1.14
2010	14.16	0.56	0.56	572	0.74	0.80	29,850	1.02	1.11
2011	10.05	0.80	0.80	568	0.74	0.80	29,460	1.01	1.10
2012	11.10	1.08	1.26	566	0.71	0.77	29,540	1.04	1.14

Source: Washington State Department of Transportation and the National Highway Traffic Safety Administration

2.3 Urban versus Rural Roads - Fatal Collision and Fatality Rates

Table 2.3.1
Urban versus Rural Roads in Unincorporated King County
Fatal Collision and Fatality Rate per 100,000 Population

Year	Urban Roads in Unincorporated King County					Rural Roads in Unincorporated King County				
	Population	# of Fatal Collisions	# of Fatalities	Fatal Collisions per 100,000 Population	Fatalities per 100,000 Population	Population	# of Fatal Collisions	# of Fatalities	Fatal Collisions per 100,000 Population	Fatalities per 100,000 Population
2007	226,300	11	11	4.86	4.86	142,000	5	5	3.52	3.52
2008	197,150	8	9	4.06	4.57	144,000	8	8	5.56	5.56
2009	218,780	6	6	2.74	2.74	124,400	1	1	0.80	0.80
2010	160,500	5	5	3.12	3.12	123,600	3	3	2.43	2.43
2011	129,500	4	4	3.09	3.09	124,065	4	4	3.22	3.22
2012	131,400	6	6	4.57	4.57	124,300	6	8	4.83	6.44

Table 2.3.2
Urban versus Rural Roads in Unincorporated King County
Fatal Collision Rate per 100 Million Vehicle Miles Traveled (VMT)

Year	Fatal Collisions			Maintained Road Miles			Annual 100 Million VMT			Fatal Collision Rate per 100 Million VMT		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
2007	11	5	16	1,178	677	1,855	24.19	5.40	29.61	0.45	0.93	0.54
2008	8	8	16	1,082	676	1,758	20.98	4.90	25.88	0.38	1.63	0.62
2009	6	1	7	1,075	668	1,743	19.01	4.31	23.33	0.32	0.23	0.30
2010	5	3	8	968	664	1,632	10.98	3.18	14.16	0.46	0.94	0.56
2011	4	4	8	864	667	1,531	6.86	3.19	10.05	0.58	1.25	0.80
2012	6	6	12	840	664	1,504	7.41	3.69	11.10	0.81	1.63	1.08

Table 2.3.3
Urban versus Rural Roads in Unincorporated King County
Fatality Rate per 100 Million Vehicle Miles Traveled (VMT)

	Fatalities			Maintained Road Miles			Annual 100 Million VMT			Fatalities per 100 Million VMT		
	Year	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
2007	11	5	16	1178	677	1855	24.19	5.40	29.61	0.45	0.92	0.54
2008	9	8	17	1082	676	1758	20.98	4.90	25.88	0.43	2.04	0.66
2009	6	1	7	1075	668	1743	19.01	4.31	23.33	0.32	0.23	0.30
2010	5	3	8	968	664	1632	10.98	3.18	14.16	0.46	0.94	0.56
2011	4	4	8	864	667	1531	6.86	3.19	10.05	0.58	1.25	0.80
2012	6	8	14	840	644	1504	7.41	3.69	11.10	0.81	2.17	1.26

Table 2.3.4
Urban versus Rural Collision Rate
per Million Vehicle Miles Traveled (VMT)

	Number of Collisions			Maintained Road Miles			Annual Million VMT			Collisions per Million VMT		
	Year	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
2007	2,041	400	2,441	1,178	677	1,855	2,421	540	2,961	0.84	0.74	0.82
2008	1,732	426	2,158	1,082	676	1,758	2,103	491	2,594	0.82	0.87	0.83
2009	1,659	411	2,070	1,075	668	1,743	1,900	431	2,331	0.87	0.95	0.89
2010	1,412	329	1,741	968	664	1,632	1,098	318	1,416	1.29	1.03	1.23
2011	1,135	366	1,501	864	667	1,531	686	319	1,005	1.65	1.15	1.49
2012	1,200	377	1,577	840	644	1,504	741	369	1,110	1.62	1.02	1.42

2.4 Collisions by Road Classification

Table 2.4.1
Collisions by King County Road Classification

Year	Principal Arterial	Minor Arterial	Collector	Local Access	Total
2007	616	659	572	594	2,441
2008	545	592	498	523	2,158
2009	512	538	517	503	2,070
2010	422	489	379	451	1,741
2011	336	441	349	375	1,501
2012	346	460	405	366	1,577

Table 2.4.2
Collisions by King County Road Classification and Severity

Year	Fatal Collisions					Injury Collisions					Property Damage Only Collisions				
	Principal	Minor	Collector	Local	Total	Principal	Minor	Collector	Local	Total	Principal	Minor	Collector	Local	Total
2007	5	3	3	5	16	236	250	224	153	863	375	406	345	436	1,562
2008	1	5	8	2	16	193	218	189	144	744	351	369	301	377	1,398
2009	0	2	4	1	7	204	218	179	121	722	308	318	334	381	1,341
2010	2	3	2	1	8	156	184	150	110	600	264	302	227	340	1,133
2011	1	1	5	1	8	136	165	131	108	540	199	275	213	266	953
2012	0	5	3	4	12	134	175	150	86	545	212	280	252	276	1,020

3.0 COLLISION TYPES

3.1 Collision Severity

Table 3.1.1
Collisions by Collision Type

Collision Type	2007	2008	2009	2010	2011	2012
Fixed object	670	606	595	563	467	542
Rear - end	506	454	435	382	320	295
Entering at angle	331	271	220	204	180	255
Left turn	136	117	143	96	93	111
Hit Parked Car	211	187	194	135	93	108
Other	97	79	81	53	51	65
Sideswipe	97	99	76	52	53	47
Vehicle overturned	98	69	89	61	54	41
Pedestrian	38	35	29	28	27	30
Head on	39	33	33	24	21	26
Bicycle	23	25	16	24	29	21
Right Turn	6	9	15	19	17	18
Animal	14	19	16	10	14	12
Leaving Parked Position	13	8	7	14	11	5
Driveway - Entering	75	59	40	23	2	1
Driveway - Exiting	87	88	81	58	69	0
Totals	2,441	2,158	2,070	1,746	1,501	1,577

Table 3.1.2
Fatal Collisions by Collision Type

Collision Type	2007	2008	2009	2010	2011	2012
Fixed object	5	8	5	2	4	4
Vehicle overturned	2	2	1	0	2	0
Head on	3	1	0	1	1	2
Pedestrian	2	1	0	1	1	1
Animal	0	1	0	0	0	0
Bicycle	1	1	0	1	0	1
Driveway	2	1	0	0	0	0
Entering at angle	0	2	0	0	0	4
Hit Parked Car	1	0	0	0	0	0
Left turn	0	0	0	2	0	0
Other	0	0	1	0	0	0
Rear - end	0	0	0	1	0	0
Sideswipe	0	0	0	0	0	0
Totals	16	17	7	8	8	12

Table 3.1.3
2012 Collisions by Collision Type and Severity

Collision Type	PDO	Injury	Fatal	Total	Percentage
Fixed object	372	166	4	542	34.4
Rear - end	199	96	0	295	18.7
Entering at angle	148	103	4	255	16.2
Left turn	69	42	0	111	7.0
Hit Parked Car	96	12	0	108	6.8
Other	48	17	0	65	4.1
Sideswipe	35	12	0	47	3.0
Vehicle overturned	12	29	0	41	2.6
Pedestrian	1	28	1	30	1.9
Head on	9	15	2	26	1.6
Bicycle	2	18	1	21	1.3
Right Turn	14	4	0	18	1.1
Animal	9	3	0	12	0.8
Leaving Parked Position	5	0	0	5	0.3
Driveway Entering	1	0	0	1	0.1
Total	1,020	545	12	1,577	100

Table 3.1.4
2012 Collisions by First Object Struck and Severity

First Object Struck	PDO	Injury	Fatal	Total	Percentage
Roadway Ditch	59	29	0	88	18.8
Utility Pole	53	26	1	80	17.1
Tree or Stump (stationary)	44	29	0	73	15.6
Fence	59	6	0	65	13.9
Wood Sign Post	22	12	0	34	7.3
Mailbox	26	6	0	32	6.9
Guardrail - Face	18	5	2	25	5.4
Earth Bank or Ledge	15	10	0	25	5.4
Other Objects	12	6	1	19	4.1
Over Embankment - No Guardrail Present	6	9	0	15	3.2
Retaining Wall (concrete, rock, brick, etc.)	7	3	0	10	2.1
Curb, Raised Traffic Island or Raised Median Curb	5	4	0	9	1.9
Fire Hydrant	5	3	0	8	1.7
Culvert and/or other Appurtenance in Ditch	4	4	0	8	1.7
Metal Sign Post	6	1	0	7	1.5
Street Light Pole or Base	4	2	0	6	1.3
Guardrail - Through, Over or Under	3	1	0	4	0.9
Concrete Barrier/Jersey Barrier - Face	3	1	0	4	0.9
Boulder (stationary)	3	0	0	3	0.6
Miscellaneous Object or Debris on Road	1	1	0	3	0.6
Building	3	0	0	3	0.6
Into River, Lake, Swamp, etc.	3	0	0	3	0.6
Signal Pole	1	2	0	3	0.6
Utility Box	2	1	0	3	0.6
Guardrail - Leading End	2	0	0	2	0.4
Bridge Rail - Face	0	2	0	2	0.4
Rock Bank or Ledge	1	1	0	2	0.4
Underside of Bridge	2	0	0	2	0.4
Concrete Barrier/Jersey Barrier - Leading End	0	1	0	1	0.2
Concrete Barrier/Jersey Barrier - Through, Over or Under	1	0	0	1	0.2
Fallen tree hit by vehicle (on the road)	1	0	0	1	0.2
Not Stated	0	1	0	1	0.2
Fallen rock hit by vehicle (on the road)	1	0	0	1	0.2
Total	372	166	4	542	100

3.2 Fixed Object Collisions

Table 3.2.1
Collision Rate per Million Vehicle Miles Traveled (VMT) for
Collisions Involving Fixed Objects

	Fixed Object Collisions			Maintained Road Miles			Annual Million VMT			Fixed Object Collisions per Million VMT		
	Year	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
2007	469	201	670	1,178	677	1,855	2,419	540	2,959	0.19	0.37	0.23
2008	377	229	606	1,082	676	1,758	2,098	490	2,588	0.18	0.47	0.23
2009	395	200	595	1,075	668	1,743	1,901	431	2,332	0.21	0.46	0.26
2010	396	167	563	968	664	1,632	1,098	318	1,416	0.36	0.53	0.4
2011	273	194	467	864	667	1,531	686	319	1,005	0.40	0.61	0.47
2012	345	197	542	840	664	1,504	741	369	1,110	0.47	0.53	0.49

Figure 3.2.1
Fatal Collisions Involving Fixed Objects as a
Percentage of All Fatal Collisions

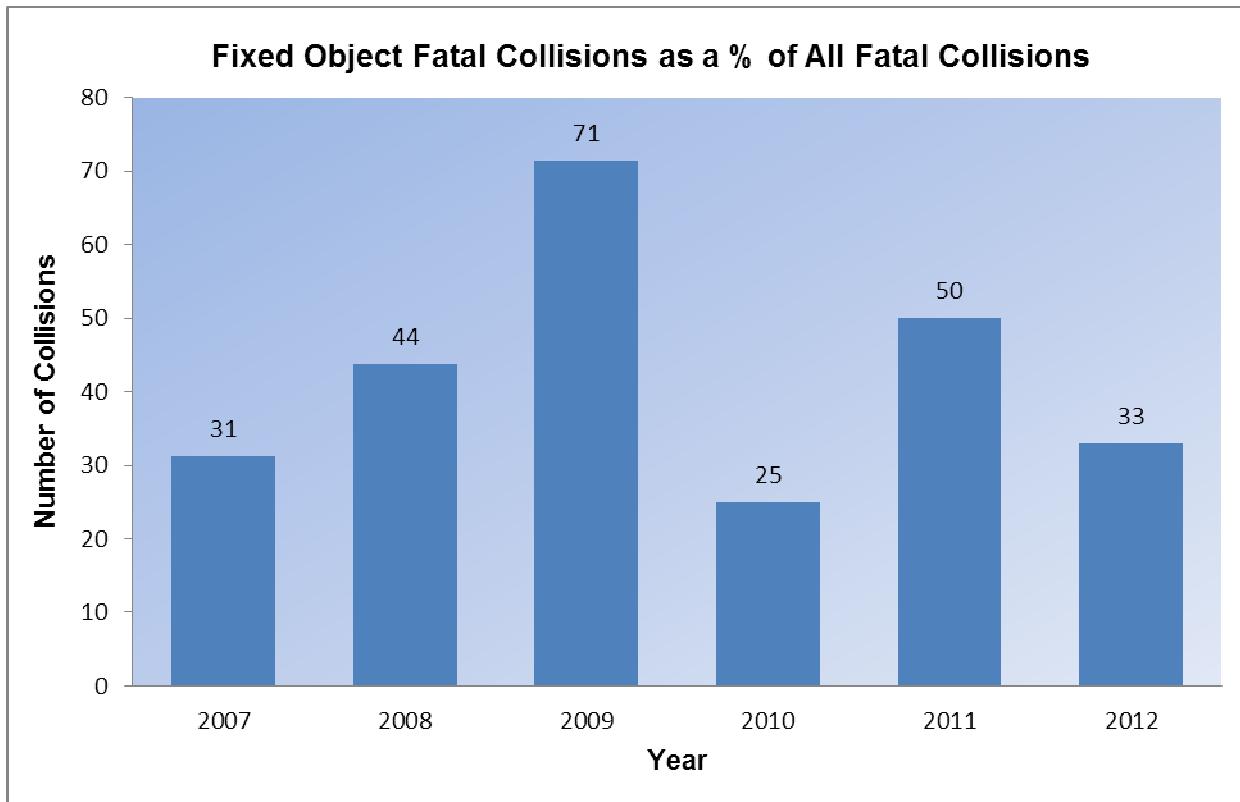
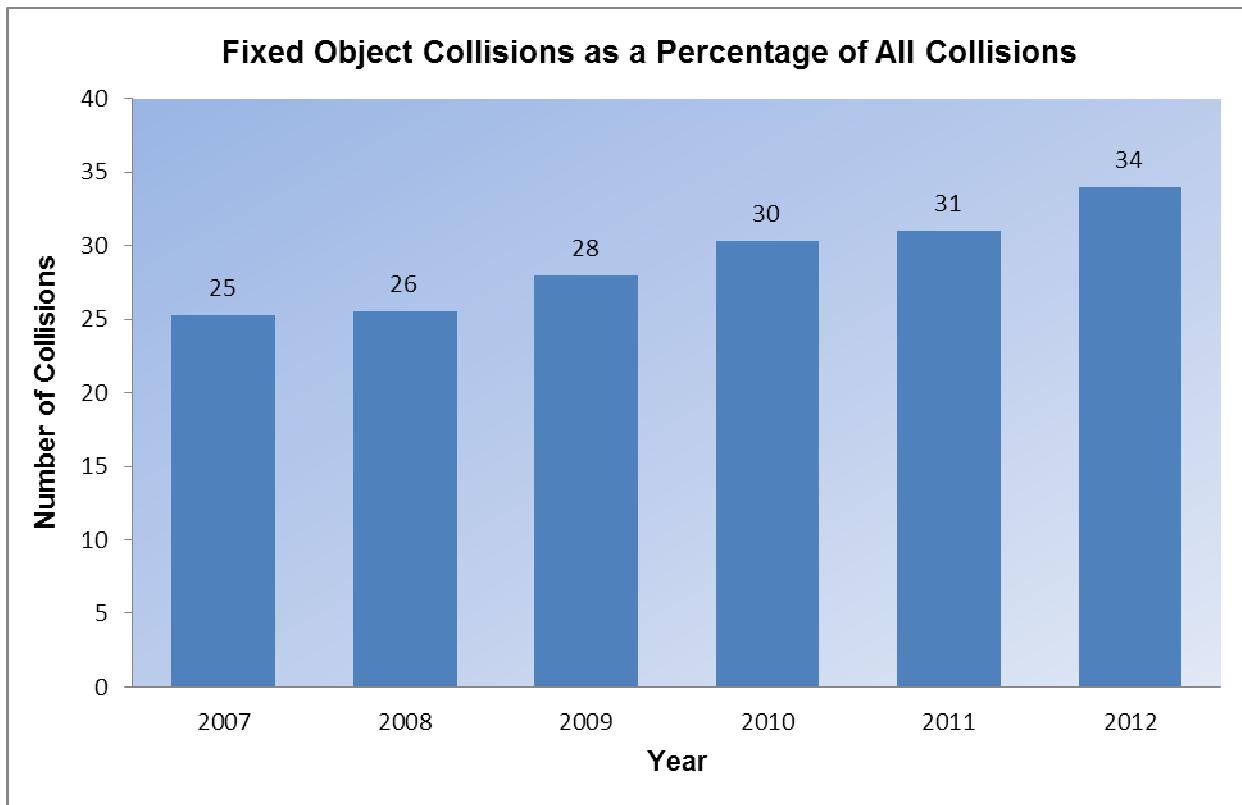


Figure 3.2.2
Collisions Involving Fixed Objects as a
Percentage of All Collisions



3.3 Pedestrian Collisions

Table 3.3.1
Pedestrian Collisions by Severity

Year	Fatal	Injury	Property Damage Only	Total Collisions
2007	2	36	0	38
2008	1	34	0	35
2009	0	29	0	29
2010	1	27	0	28
2011	1	26	0	27
2012	1	28	1	30

Table 3.3.2
**2012 Pedestrian Collisions by Facility
Used and Severity**

Facility	No Injury	Injury	Fatality	Total
Marked X walk	0	9	0	9
Roadway	1	11	1	13
Shoulder	0	2	0	2
Unmarked X walk	0	4	0	4
Sidewalk	0	2	0	2
Total:	1	28	1	30

Table 3.3.3
Pedestrian Collisions by Contributing Circumstance

Contributing Circumstance	2007	2008	2009	2010	2011	2012
Fail to Yield Row to Pedestrian	11	14	11	12	13	10
None	15	8	5	9	9	13
Other	5	5	6	6	1	2
Exceeding Reasonable Safe Speed	1	1	2	0	1	0
Inattention	1	0	2	0	1	1
Operating Defective Equipment	0	2	0	0	1	1
Disregard Stop and Go Light	0	0	0	0	1	0
Driver Distractions Outside Vehicle	0	0	2	0	0	0
Driver Operating Handheld Telecommunication	0	0	0	0	0	1
Under Influence of Drugs	0	0	1	0	0	0
Contributing Circumstance was not filled in	0	0	0	0	0	0
Apparently Ill	0	1	0	0	0	0
Driver Interacting with Passengers, Animal	1	0	0	0	0	0
Driver Smoking	1	0	0	0	0	0
Exceeding Stated Speed Limit	0	1	0	1	0	0
Improper Backing	0	1	0	0	0	0
Improper Turn	1	0	0	0	0	2
Other Driver Distractions Inside Vehicle	0	1	0	0	0	0
Under Influence of Alcohol	1	1	0	0	0	0
Unknown Driver Distraction	1	0	0	0	0	0
Total	38	35	29	28	27	30

Table 3.3.4
Age of Pedestrians Involved in Collisions

Age Range	2007	2008	2009	2010	2011	2012
Unknown	3	2	2	2	0	2
0-5	3	0	1	1	1	3
6-10	1	2	0	2	2	2
11-15	1	6	5	3	6	0
16-20	5	5	4	5	3	7
21-25	2	3	3	2	2	2
26-30	0	2	0	3	1	1
31-35	4	3	3	0	1	2
36-40	3	3	2	2	2	1
41-45	3	3	0	2	2	3
46-50	2	1	1	1	0	2
51-55	3	2	5	0	1	2
56-60	1	2	3	1	4	1
61-65	2	1	0	1	0	1
66-70	2	0	0	0	0	0
71-75	1	0	0	2	0	0
76-80	1	0	0	1	2	0
81-85	0	0	0	0	0	0
86+	1	0	0	0	0	1
Total	38	35	29	28	27	30

Table 3.3.5
Gender of Pedestrians Involved in Collisions

Year	Unknown	Female	Male	Total
2007	9	15	14	29
2008	0	15	20	35
2009	1	9	19	28
2010	2	10	16	26
2011	0	14	13	27
2012	0	16	14	30

3.4 Bicycle Collisions

Table 3.4.1
Bicycle Collisions by Severity

Year	PDO	Injury	Fatal	Total
2007	1	21	1	23
2008	0	24	1	25
2009	1	15	0	16
2010	0	23	1	24
2011	0	29	0	29
2012	2	18	1	21

3.5 Motorcycle Involved Collisions

Table 3.5.1
Motorcycle Involved Collisions
By Severity

Year	Property Damage Only	Injury	Fatality	Total
2007	7	55	2	64
2008	8	49	3	60
2009	7	57	1	65
2010	12	38	2	52
2011	4	31	2	37
2012	7	37	6	50

4.0 OTHER COLLISION INFORMATION

4.1 Estimated Economic Costs

Table 4.1.1
Estimated Economic Costs

Severity	2012 Collisions	Estimated Cost
Property Damage Only	1020	\$9,282,000
Injury	545	\$42,891,500
Fatal	12	\$17,040,000
Total	1577	\$69,213,500

The following estimated costs per accident are used in this calculation:

Property Damage Only-\$9,100, Injury-\$78,700, Fatality-\$1,420,000 (National Safety Council, 2011)

4.2 Month, Day of Week, and Time of Day

Figure 4.2.1
2012 Collisions by Month

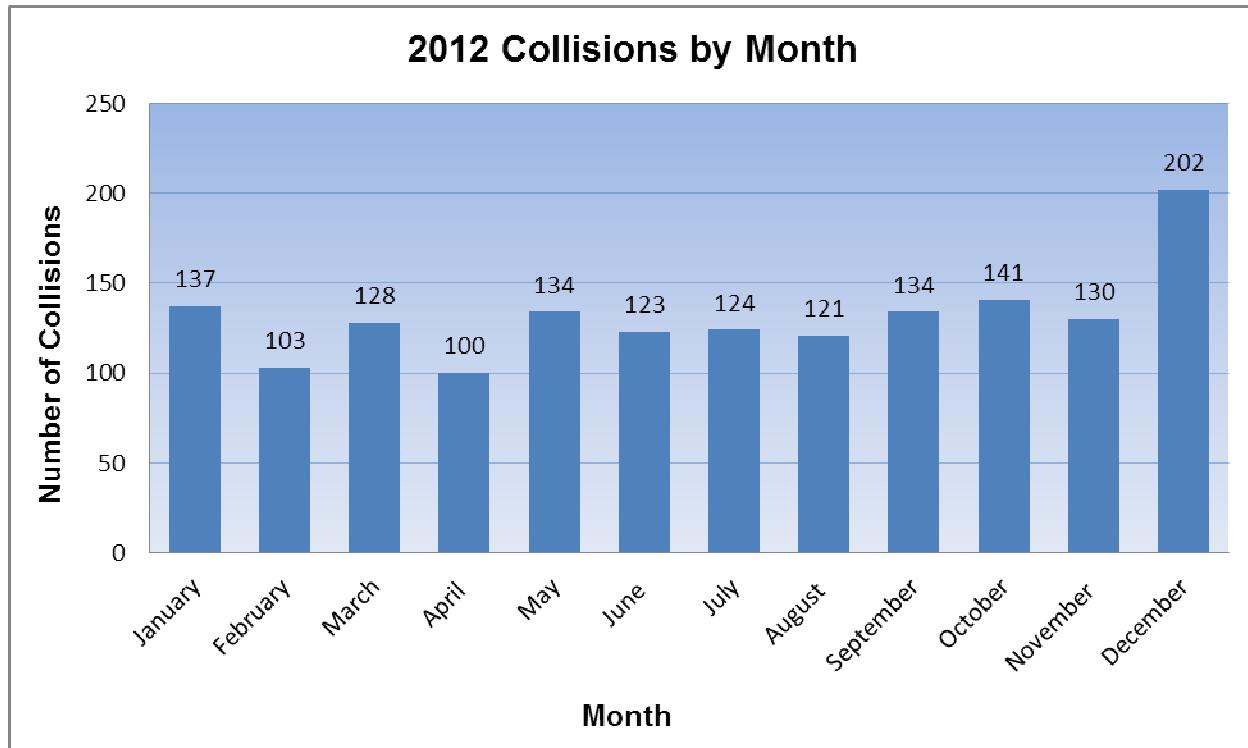


Figure 4.2.2
2012 Collisions by Day of Week

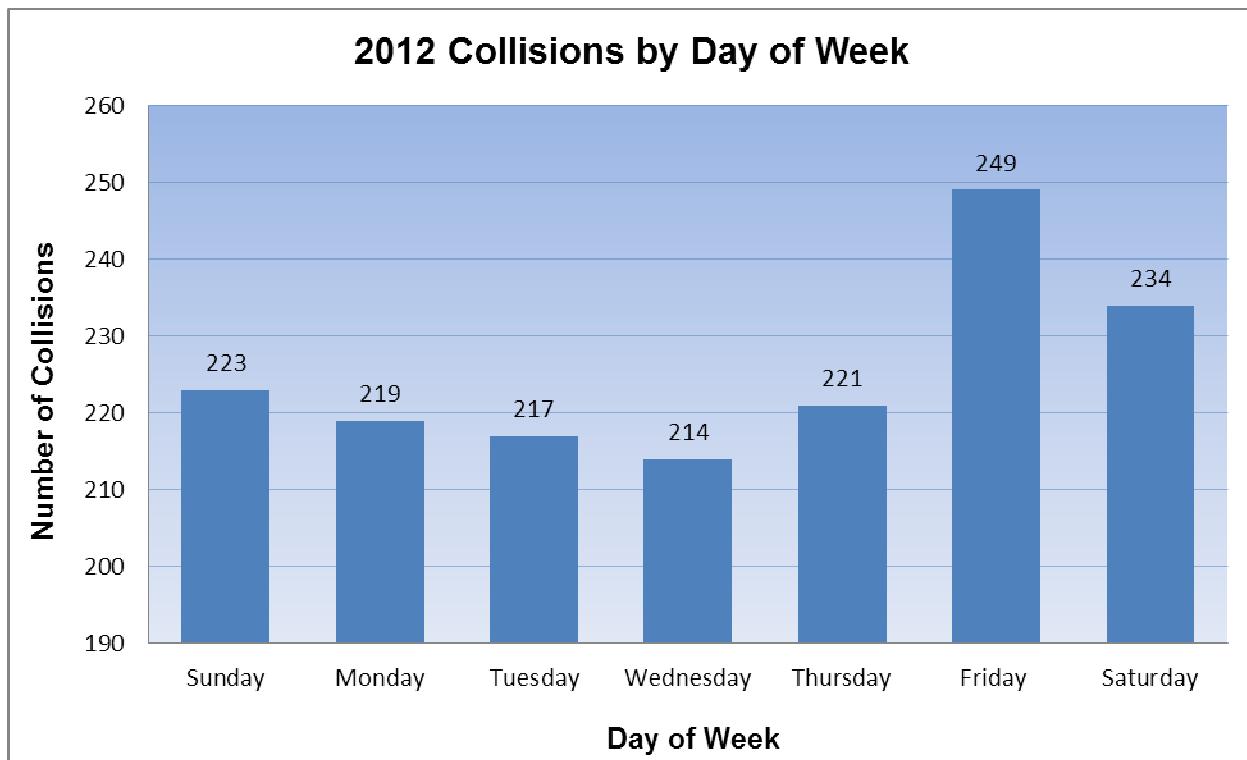


Figure 4.2.3
2012 Weekday Collisions
By Time of Day

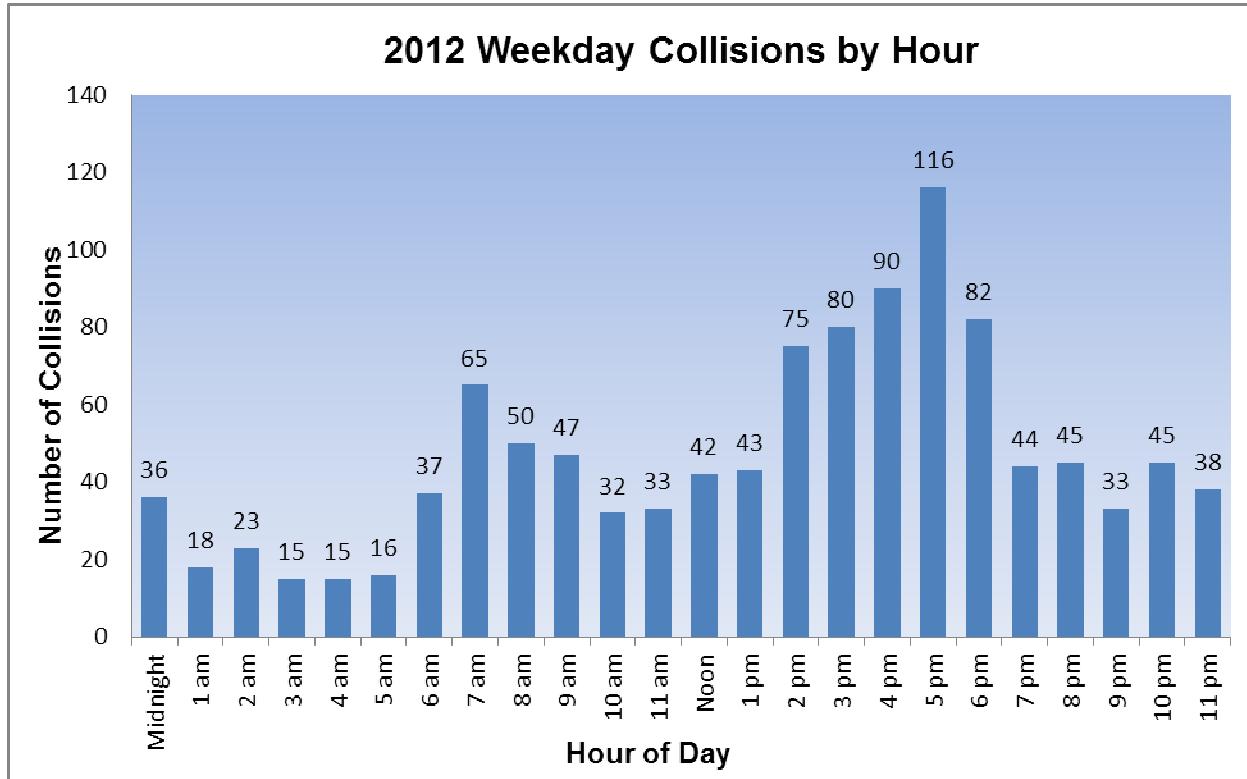
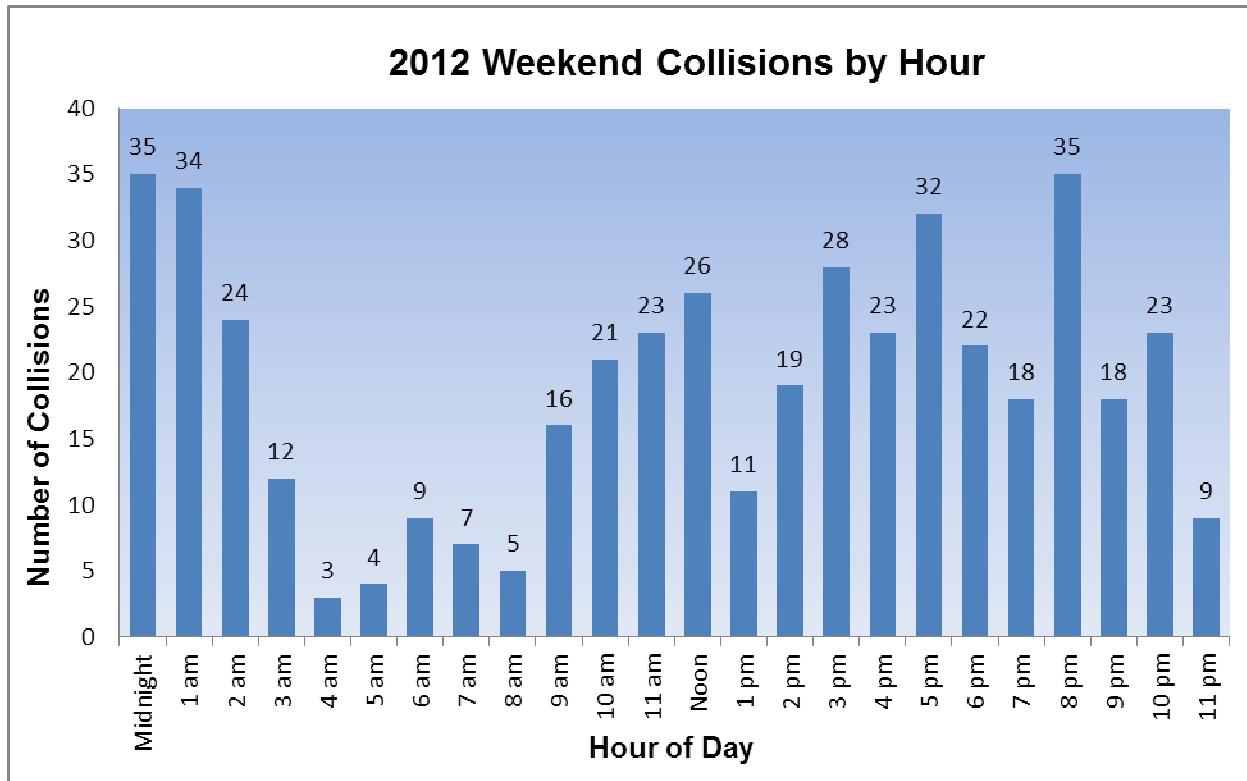


Figure 4.2.4
2012 Weekend Collisions
By Time of Day



4.3 Weather Conditions

Table 4.3.1
Fatal Collisions by Weather Condition

Year	Clear or Partly Cloudy	Fog or Smog or Smoke	Overcast	Raining	Unknown	Total
2007	10	0	3	3	0	16
2008	6	1	7	2	0	16
2009	2	0	4	0	1	7
2010	5	0	2	1	0	8
2011	5	1	2	0	0	8
2012	9	0	2	1	0	12

Table 4.3.2
Injury Collisions by Weather Condition

Year	Blowing Sand or Dirt or Snow	Clear or Partly Cloudy	Fog or Smog or Smoke	Other	Overcast	Raining	Severe Crosswind	Sleet, Hail or Freezing Rain	Snowing	Unknown	Total
2007	0	529	12	2	161	146	1	1	7	4	863
2008	0	431	6	0	150	134	0	2	18	3	744
2009	0	470	11	1	103	117	0	4	12	4	722
2010	1	344	6	0	85	151	1	0	6	6	600
2011	0	340	1	1	93	97	0	1	2	5	540
2012	0	309	4	3	94	125	0	0	7	3	545

Table 4.3.3
Property Damage Collisions by Weather Condition

Year	Blowing Sand or Dirt or Snow	Clear or Partly Cloudy	Fog or Smog or Smoke	Other	Overcast	Raining	Severe Crosswind	Sleet, Hail or Freezing Rain	Snowing	Unknown	Total
2007	2	859	8	5	277	330	2	4	27	48	1562
2008	0	735	8	2	272	312	0	5	30	34	1398
2009	0	800	32	2	189	253	1	5	29	30	1341
2010	1	605	6	5	182	287	0	1	23	23	1133
2011	0	507	4	0	199	207	0	4	12	20	953
2012	0	514	5	4	190	244	0	4	21	38	1020

4.4 Demographics

Figure 4.4.1
2012 Collisions By Age of Driver

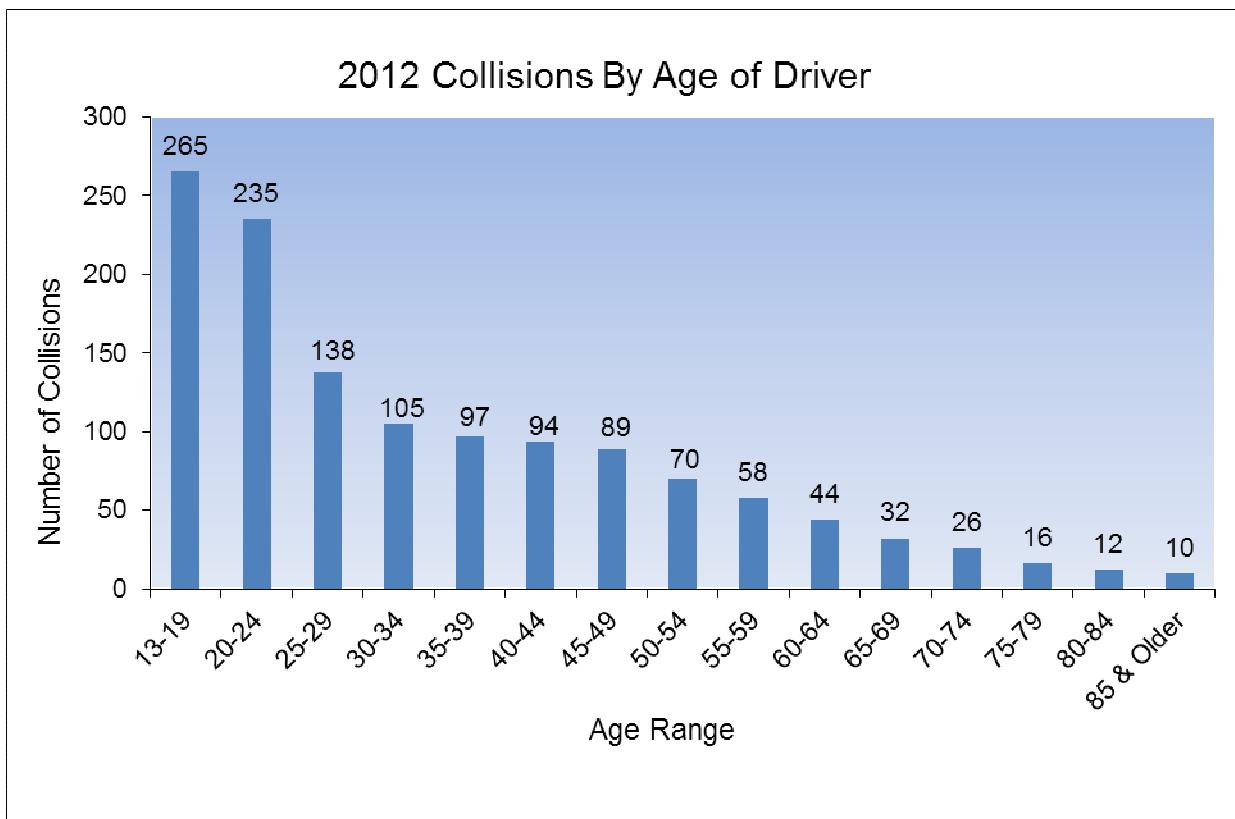


Figure 4.4.2
Distribution of Washington State Licensed Drivers
By Age and Gender for 2012



Table 4.4.1
Number of Washington State Licensed Drivers
By Age and Gender for 2012
 (In thousands)

Age	Male	Female	Total
19 and Under	100	97	197
20-24	223	206	429
25-29	263	236	499
30-34	272	240	512
35-39	248	220	468
40-44	255	230	485
45-49	245	227	472
50-54	255	242	497
55-59	239	232	471
60-64	205	199	404
65-69	157	152	309
70-74	100	96	196
75-79	66	65	131
80-84	44	46	90
85 and Over	33	37	70

SOURCE: U.S. Department of Transportation, Federal Highway Administration,
Highway Statistics 2012, Washington, DC: 2012

Table 4.4.2
Leading Contributing Circumstance
For Drivers between the Ages of 16-25 for 2012

Leading Contributing Circumstance	16	17	18	19	20	21	22	23	24	25	Totals
Exceeding Safe Speed or Speed Limit	10	25	22	14	12	14	10	15	15	9	146
Did Not Grant Right of Way to Vehicle	18	8	14	7	6	4	5	7	8	2	79
Inattention	2	9	7	5	5	5	4	5	2	3	47
Other	9	6	3	3	4	2	3	5	2	1	38
Under Influence of Alcohol	1	1	1	5	6	2	9	7	3	1	36
Follow Too Closely	4	2	3	8	4	0	4	4	2	1	32
None	3	3	3	1	5	4	1	3	1	2	26
Over Center Line	5	0	3	1	1	0	3	1	0	3	17
Apparently Asleep	1	3	3	3	2	1	2	1	0	0	16
Driver Distractions Outside Vehicle	0	4	2	3	2	0	3	0	1	0	15
Disregard Stop Sign - Flashing Red	1	3	1	2	2	0	0	0	1	0	10
Improper Passing	1	0	1	4	0	2	0	2	0	0	10
Disregard Stop and Go Light	1	2	1	2	0	1	0	1	1	0	9
Driver Operating Cellphone	1	0	1	0	0	0	2	1	0	1	6
Operating Defective Equipment	0	0	0	1	0	2	0	0	0	2	5
Improper U-Turn	0	0	1	3	0	0	0	0	0	1	5
Other Driver Distractions Inside Vehicle	0	0	0	2	0	1	0	0	1	0	4
Improper Backing	0	0	1	1	0	0	0	2	0	0	4
Driver Interacting w/ Passengers, Animals	0	0	2	0	0	0	1	0	0	0	3
Improper Turn	0	0	2	0	0	0	1	0	0	0	3
Driver Adjusting Audio or Entertainment	0	0	2	1	0	0	0	0	0	0	3
Driver Eating or Drinking	0	1	0	1	0	1	0	0	0	0	3
Apparently Ill	0	1	0	0	0	2	0	0	0	0	3
Apparently Fatigued	0	0	0	0	0	1	0	0	0	0	1
Failure to Yield Right of Way to Pedestrian	0	0	0	0	1	0	0	0	0	0	1
Did Not Grant Right of Way to Bicycle	0	0	0	0	0	1	0	0	0	0	1
Failing to Signal	0	0	0	0	0	0	1	0	0	0	1
Disregard Yield Sign - Flashing Yellow	0	0	0	0	0	0	0	1	0	0	1
Under Influence of Drugs	0	0	0	0	0	0	0	1	0	0	1

4.5 Contributing Circumstances

Table 4.5.1
2012 Collisions by Contributing Circumstance

Driver One Contributing Circumstances	Fatality	Injury	PDO	Total
Exceeding Reasonable Safe Speed	1	102	174	277
Other	0	45	195	240
Did Not Grant RW to Vehicle	3	87	136	226
Under Influence of Alcohol	2	49	56	107
Follow Too Closely	0	28	75	103
Inattention	0	32	60	92
None	1	35	44	80
Over Center Line	1	23	50	74
Disregard Stop Sign - Flashing Red / Stop and Go Light	1	23	38	62
Exceeding Stated Speed Limit	3	19	28	50
Improper Passing / Improper U-Turn	0	8	31	39
Apparently Asleep	0	20	12	32
Driver Distractions Outside Vehicle	0	8	19	27
Operating Defective Equipment	0	10	14	24
Improper Backing	0	2	20	22
Improper Turn	0	6	16	22
Apparently Ill	0	13	6	19
Driver Operating Phone/Hands Free Phone/Electronic Equipment	0	6	10	16
Fail to Yield Row to Pedestrian	0	12	1	13
Other Driver Distractions Inside Vehicle	0	1	10	11
Unknown Driver Distraction	0	4	7	11
Driver Interacting with Passengers, Animals	0	1	6	7
Disregard Yield Sign - Flashing Yellow/Failing to Signal/Headlight Violation/Improper Signal/Improper Parking Location				
Driver Eating/Drinking/Smoking/Reading/Writing	0	3	3	6
Under Influence of Drugs	0	1	3	4
Did Not Grant RW to Bicycle	0	4	0	4
Apparently Fatigued/Had Taken Medication	0	2	0	2

4.6 Impairment

Table 4.6.1
Collisions Involving
Drivers under the Influence (DUI)

Year	Fatal	% of Fatalities	Injury	% of All Injury	Property Damage Only	% of all PDO	Total	% of all Collisions
2007	4	25.0	106	12.3	102	6.5	212	8.7
2008	7	43.8	81	10.9	93	6.7	181	8.4
2009	3	42.9	73	10.1	111	8.3	187	9.0
2010	2	25.0	76	12.7	95	8.4	173	9.9
2011	3	37.5	76	14.1	68	7.1	147	9.8
2012	8	66.7	71	13.0	77	7.5	156	9.9

Figure 4.6.1
2012 Weekend Collisions for
Drivers under the Influence
By Time of Day

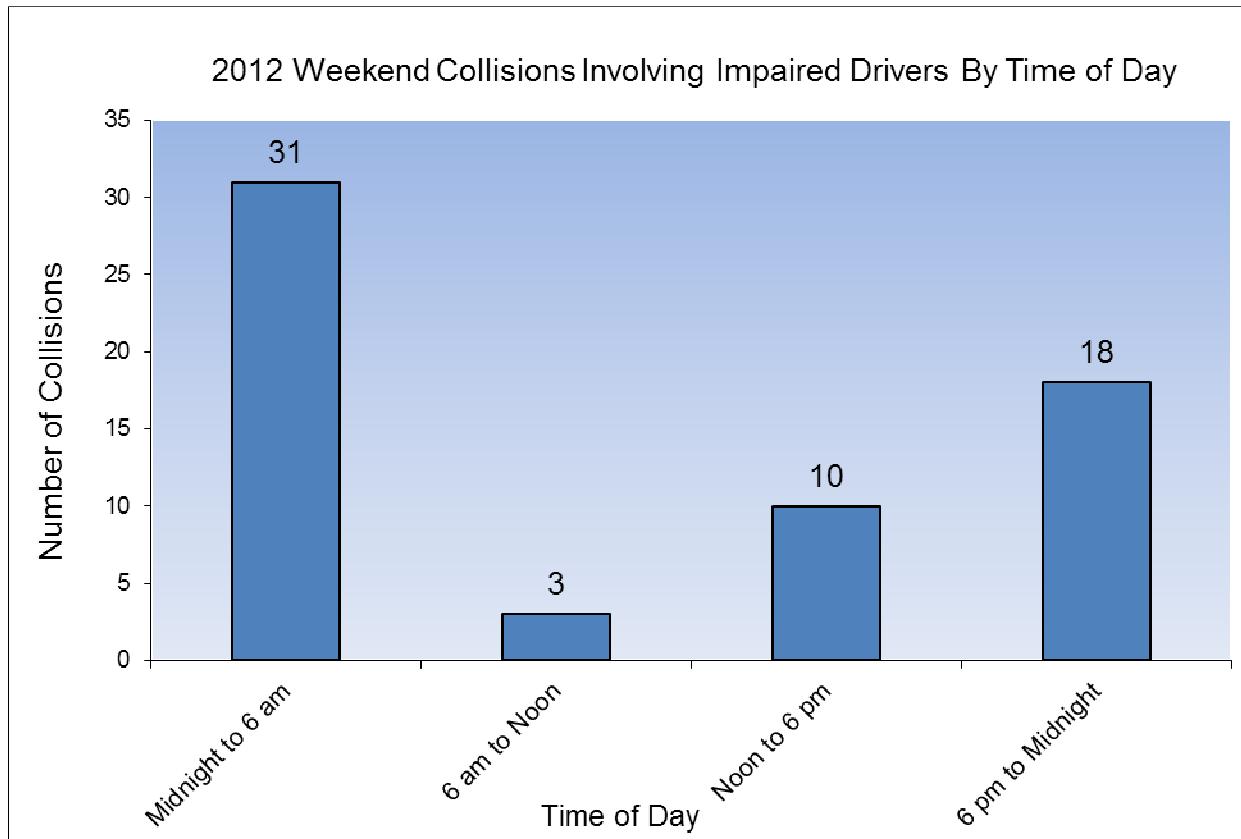
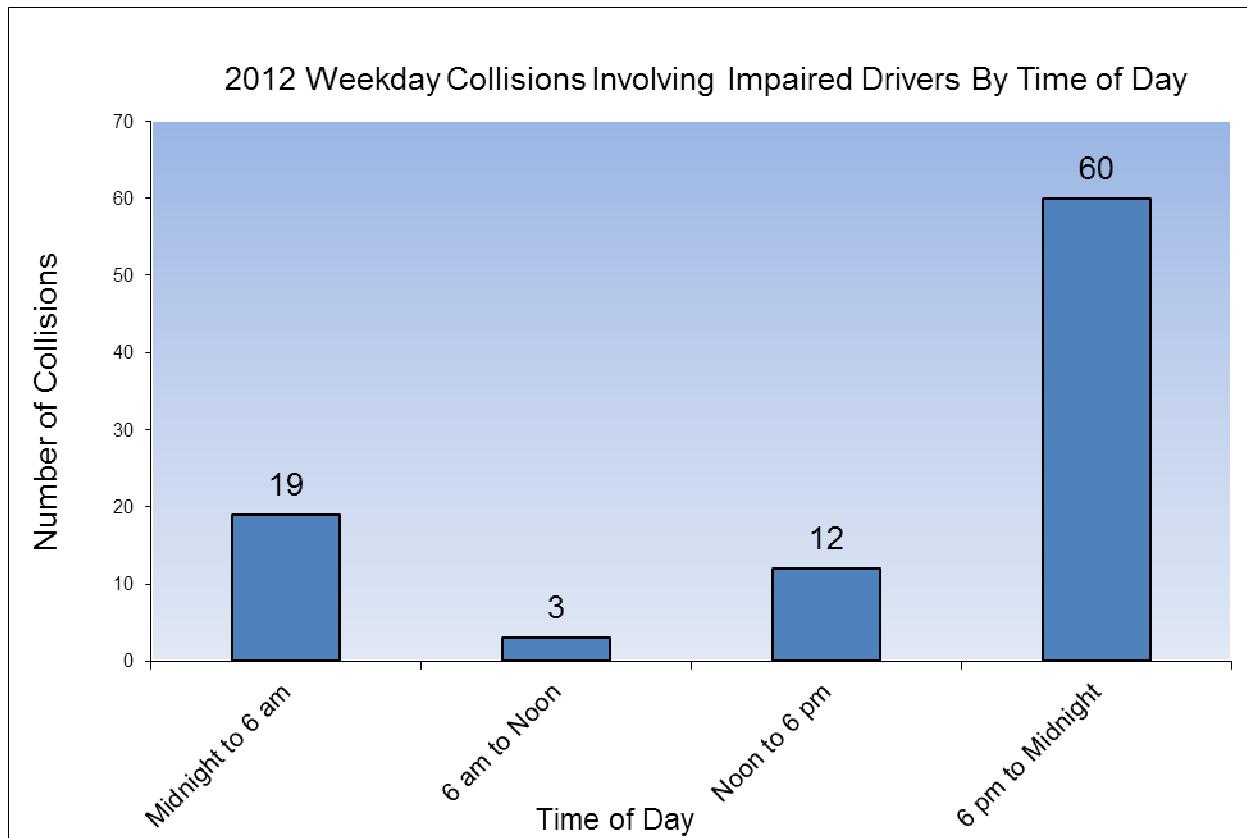


Figure 4.6.2
2012 Weekday Collisions for Drivers under the Influence
By Time of Day



4.7 Speed

Table 4.7.1
Speeding as a Contributing Circumstance in
Fatal, Injury, and Property Damage Collisions

Year	Fatal	% of All Fatalities	Injury	% of All Injury	PDO	% of All PDO	Total	% of All Collisions
2007	5	31.3	269	31.2	472	30.2	746	30.6
2008	7	43.8	233	31.3	432	30.9	672	31.1
2009	4	57.1	225	31.2	339	25.3	568	27.4
2010	2	25.0	167	27.8	305	26.9	474	27.2
2011	5	62.5	127	23.5	220	23.1	352	23.5
2012	4	33.3	121	22.2	202	19.8	327	20.7

4.8 Lighting Conditions

Table 4.8.1
2012 Collisions By
Lighting Condition

Lighting Condition	Fatal	Injury	Property Damage Only	Totals
Daylight	5	318	509	832
Dark-Street Lights On	1	91	228	320
Dark-No Street Lights	4	94	155	253
Dusk	2	16	39	57
Unknown	0	8	51	59
Dawn	0	13	18	31
Dark-Street Lights Off	0	5	19	24
Other	0	0	1	1
Totals	12	545	1020	1577

Appendix A **DATA SOURCES**

Collision Data

Collision information was obtained from the Washington State Department of Transportation's (WSDOT) Collision Data and Analysis Branch. The Collision Data and Analysis Branch are responsible for updating and maintaining all electronic collision records in Washington State. Vehicular collisions which sustain more than \$750 in property damage, or involve an injury or a death are required to be reported to the Washington State Patrol by a Police Traffic Collision Report. The Washington State Patrol provides hard copies of the Police Traffic Collision Report to WSDOT, where they are converted into an electronic format.

Injuries are classified based on conditions that are present at the time of the collision except in the case of fatalities. An injury resulting in a death within 30 days of the collision is classified as a fatal injury.

Population Data and Square Footage of King County

Population and square footage of unincorporated King County is from the county's Office of Policy and Regional Planning.

King County Maintained Roadway Figures

The King County Road Service's Strategic Business and Operations Section (SBOS) provided the historical and present number of county maintained roadway miles.

Traffic Count Data

King County's Road and Traffic Engineering Unit provided the traffic count information used in this report.

Appendix B **FORMULAS IN REPORT**

Accident Rate

R= (Acc* 10^6) / (ADT*365*L), where

R= accident rate in accidents per million vehicle mile (acc/mvm),

Acc= number of accidents in one year period,

ADT = average daily traffic volume, and

L = Length of study section in miles

Societal Costs of Collisions

The societal costs of collisions were calculated as follows:

Cost = \$6,000*PDO + \$65,000*I + \$1,000.000*F, where

1. PDO – Total Number of Property Damage Collisions = \$6, 000.00
2. I – Total Number of Injury Collisions = \$65,000.00
3. F – Total Number of Fatal Collisions = \$1,000,000.00